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Comments on Case 21-00026 Application of Heritage Wind for a Permit for a Major Renewable Energy Facility pursuant to Section 94-c of the New York State Executive Law to Construct a 184.8 MW Wind Energy Project located in the Town of Barre, Orleans

SOS makes the following comments on the Heritage Wind Draft Conditions in addition to its Petition requesting Party Status. These are comments that include the work of many SOS committee members and input from members of other citizen's groups.

Public Involvement: The size of the industrial wind turbines in this project will result in a geographically large impact. Potentially affected geographic areas include the Iroquois Refuge and two wildlife management areas, the towns of Albion, Gaines and Shelby and the Villages of Holley, Clarendon, Oakfield, Elba, and Alabama. There have been notices posted in a local paper but due to impacts from the pandemic including limited in person local meetings, SOS raises the issue as to how well informed the extended local communities are about the current status of the project, the speed of the new 94-c process and the limited options for comments with the comment period ending today.

SOS has raised concerns about access of Orleans County residents to the websites, large documents and web based hearings. Numerous portions of the County lack adequate access to the internet. Comment periods for this project should be extended and an in person comment hearing should be scheduled.

Disruption to Travel: All the roads in the area are two lanes. This project will have an effect on anyone traveling or using farm equipment. Heritage Wind's Route Evaluation Study, dated January 2020, includes Table 3, Construction Vehicle Volumes. Total volume in cubic yards of gravel is 46,068. Total number of gravel trucks is 4607. The gravel is for access roads to the turbines within the project site. Total volume of concrete mix in cubic yards is 42,240, with the number of trucks given as 4224. This is a huge disruption for any locale where the trucks will travel. The documents, however, refer specifically to the study area (Exhibit 25-1). The route is not given in the later amendment but is described as below Interstate 90 in the earlier document. The version updated in June 2020 (Exhibit 25-A) by Fisher Associates says moving turbine

components requires *specialized OS/OW haulers that require special consideration during project planning. Final routes to the Study Area will depend on the turbine transporter and the source of the shipments.*

The transportation section of the Heritage Wind document 25-1 includes information about the distance of the proposed wind turbines to the Medina Hospital helipad. All the turbines will be located within 15 miles of the helipad and a number will be within ten miles. SOS believes that the issue of possible impact to Mercy Flight travel should be studied and evidence presented at a fact hearing. This includes the extent that the project will limit emergency transport in the area and whether the project will impact flight from the Medina Hospital to other medical facilities, particularly in the Rochester area.

Birds: Since the early stages of the Article 10 process the record has included substantial documents from local and national birding organizations regarding the problematic location of this project. Requests for additional studies and attention to the birds, bats and raptors have been denied by the applicant's failure to produce more robust studies, including radar studies and nighttime studies. There are a number of comments filed by birding organizations in the 94-c comment DMM. However, SOS will also post, as a supplement to the SOS comments, the earlier Article 10 documents from birding organizations.

In the applicant's Galloo Island Wind project there were significant concerns with their management of wildlife information. **SOS Heritage Wind Comment Supplement A** has been submitted as a separate comment. It is a copy of a New York Times article regarding this issue. Past concerns combined with the prevalence of eagles in the project area and the designation of the area as an Important Bird Area provide reasons why the issue of wildlife impacts, mitigations and alternatives require a fact hearing.

The documents filed by the applicant do not directly addresses bird habitat. The comment from the American Bird Conservancy dated May 8, 2020: *Review of Scope of Avian Studies for Heritage Wind* (filed under Comments of the Genesee Valley Audubon Society) covers the issues persuasively and argues for a number of studies to be completed, with a focus on migratory birds. This document has been submitted as a separate comment named **SOS Heritage Wind Comment Supplement C**

Unlike projects that will be initiated under 94-c, the Heritage Wind project has been around for a while. The applicant has been aware of the concerns over bird, bat and raptor impacts for years. Submitted as additional comments in this case are the following documents that exemplify the ongoing and extensive requests for additional studies, and other data and in the case of DEC, a request for an alternative location:

- American Bird Conservancy dated May 8, 2020: *Review of Scope of Avian Studies for Heritage Wind* submitted as a separate comment named **SOS Heritage Wind Comment Supplement C**
- Rochester Birding Association dated September 18, 2019, *Comments on Stipulations and Revised Scoping Statement*, submitted as a separate comment named **SOS Heritage Wind Comment Supplement E**
- NY Department of Environmental Conservation dated April 5, 2018, *Preliminary Scoping Statement Comments*, submitted as a separate comment named **SOS Heritage Wind Comment Supplement G**
- Rochester Birding Association and Genesee Valley Audubon Society April 6, 2018, *Comments on Preliminary Scoping Statement*, submitted as a separate comment named **SOS Heritage Wind Comment Supplement F**

Flicker: SOS's ORES 94-c regulations comments, Appendix D has been submitted as a separate Heritage Wind comment named **SOS Heritage wind Comment Supplement D**. Below is a quote from this document:

> *The New York State Department of Health has testified in Article 10 proceedings that annoyance from shadow flicker is a public health issue. No New York or national standard exists limiting the long-term and short-term exposures to shadow flicker based on health impacts…The Danish Energy Agency classifies shadow flicker as a "nuisance". The National Association of Regulatory Utility Commissioners recommends limiting exposure to 30 hours per year and 30 minutes per day.*

The Town of Barre limits shadow flicker to 25 yours per year.

The applicant's analysis indicates that 42 nonparticipating residential receptors were predicted to receive in excess of 30 hours of shadow flicker per year, some of them substantially more than the 30 hour per year limit.

The application does not indicate how the project will mitigate these impacts. The fact that the town has a lower shadow flicker than the ORES regulations indicates the importance of this issue to the community. This 25 your limit must be enforced. Alternatively, the 30 hour limit must be strictly enforced and not otherwise mitigated. The burden should be on the applicant to relocate the turbines, remove the offending ones, or shut them down as needed with substantial fines if they fail to do so, and not the non-participating resident to install blinds.

This issue is substantial and significant and should be raised at a fact hearing.

Turbine Height: There are very few 675 foot turbines on land in the United States. There are no studies of the impacts of turbines of this height in this close proximity to residences and in with location in a migratory region in close proximity to wildlife management areas and a national refuge. In the same manner that hydrofracking required extensive environmental review, so turbines of this height also must have extensive environmental review. The uniform conditions were finalized without such review and do not provide adequate protection for wildlife, habitat and residents. These industrial wind turbines are 200-300 feet taller than most that are currently located in New York State. Residents of the town of Barre and Orleans County as well as the National and State resources do not deserve to be the test run in an experiment where there are so few reasonable options in the event of a harmful outcome.

In the Barron Winds case the turbines were increased substantially after the project hearing. Will this possibly be the case in this project?

The turbine height located in close proximity to residences and wildlife areas present a site specific condition that requires a fact hearing.

Public Policy: The public did not have input into the passage of 94-c, as it was passed in a budget vote. Public interest in the 94-c process was substantial as many comments were provided by the public and citizen's groups on the 94-c regulations. ORES made no substantial changes to proposed regulations as a result of the comments. The issuing of an approval in the Heritage Wind case by ORES without a public hearing given the substantive and substantial comments that have been submitted would add to the public concerns about lack of attention to local laws and local issues.

Wetlands, Streams and Impacts to Surface and Groundwater: The Heritage Wind project site is laced with wetlands and streams. This is a complex system in an environmentally important area with proximity to three wildlife refuges that are expansive. Seasonal water is a concern and has not been thoroughly addressed.

The issues and concerns with the hydrology aspect of the Heritage Wind project are extensive. SOS requests that the hydrology of the project area and surrounding areas be considered site specific conditions that require a fact hearing for consideration of the sufficiency of the studies and mapping, the impacts and mitigations.

While it is not the purview of the Administrative Law Judges in this case to analyze the regulations we believe it is instructive to note the limitations as set forth in SOS's comments on the draft regulations, which were finalized with no substantial changes. We include the excerpts below and request that these concerns be addressed in the Heritage Wind permit conditions due to the site specific hydrology of the project and surrounding areas.

SOS's ORES 94-c regulation comments Appendix B Environment have been posted as a separate Heritage Wind comment named **SOS Heritage Wind Comment Supplement B** and a quote is listed below:

> *Description of wetland functions and values is deficient. These evaluations should be based on wetland science, on-site conditions, and individual wetland types. The proposed regulations do not include descriptions of wetland habitats; this is important for assessing wetland functions including whether rare wildlife species will be affected by the project. The sheer number of wetlands and streams that may be present on a large wind or solar farm site should not be cause to reduce or omit the information required for assessing impacts on each wetland and stream* (pp 3-4). More specifically the comments say: *The proposed regulations do not require the assessment of the full array of all project activities' impacts on wetlands and streams. For example wetland impacts are limited primarily to placing fill. This deficiency needs to be corrected; the full array of project construction, maintenance and operation impacts to wetlands and streams must be addressed. These include, for example, the effects of siting and construction of turbine pads (ie 1000 tons of concrete and rebar), such as subsequent soil compaction and interference with groundwater and watershed drainage patterns; and effects of in-wetland road construction (including culverts) on the entire wetland ecosystem, eg changes in hydrology, vegetation, and water quality. Mitigation plans for wetlands, streams, and waterbodies are inadequate in terms of addressing specific impacts and lack grounding in science and professional knowledge regarding practices that will effectively mitigate impacts. These plans lack criteria for success and science-based creation, restoration and enhancement requirements, and related ratios for mitigation. Wetland handbooks for federal and state wetland reviews and delineations contain useful information for describing wetlands and assessing impacts, and should be used in the development of these proposed regulations* (p 5).

Exhibits 22-1 and 22-3 show extensive mapping of the project area, but do not describe the intended process for showing the delineation of wetlands, potential impacts and mitigation, if any.

The ORES Appendix B- Environment comments on page 6 recommend:

> *delineations should be reviewed by a wetland professional who is not employed by the project applicant, and typically this task falls to DEC. In light of this potential constraint, the sixty-day review period noted in #5is unrealistic and unworkable. A wind farm can encompass several hundred wetlands. Review time will be affected by DEC staff availability, seasonal and weather conditions, and the size of the large scale renewable project under review. Recognizing that both expediency and accuracy are desired, a more reasonable limit would be one growing season (time between the first and last frost).*

There is also a concern about other area wetlands in the ORES draft. The comment on page 10:

> *Off-site wetlands may be affected by onsite activities, and these effects may extend more than 100 feet beyond the limits of disturbance, depending on wetland and site-specific characteristics. The 100 foot limit is arbitrary, not based on wetland science, and should be removed.*

Specific Hydrology Analysis of the project

This is a difficult project to review as the Information provided is voluminous but analysis and synthesis at the project level is largely done generically. While the need for flexibility and site-specificity is understood, the application and draft permit do not fully inform stakeholders about specific plans, impacts or mitigation. In that regard, the process lacks transparency.

Wetland and Water Monitoring - The success or failure of many projects hinges on its administration on the ground, in the field and access by objective regulatory staff. The fact that the Environmental Monitor will be paid by the Owner / Applicant suggests potential for conflict of interest. NYS DEC customarily has regulatory authority, expertise and experience monitoring compliance with environmental resource protection measures. Stakeholders would be objectively and fairly served by granting NYS DEC access and authority on project sites. Long-term monitoring should include groundwater and surface waters.

US and NYS taxpayers are stakeholders in this project, as much by their interest in nearby Federal and State wildlife habitat as by political and financial incentives granted to the Applicant. At least once / year, affected parties and the local press should be allowed to tour the project area, observe the construction and restoration activities, discuss issues and technology transfer with the Owner and report out to their members and stakeholders.

Characterization of water resources:

Bedrock

Appendix 21B (Preliminary Geotechnical Engineering Report) and Exhibit 21.3 (Bedrock) suggest that much of the site may have bedrock within the depth many if not most of the tower foundations.

Slope & Soils

Surface & Subsurface Hydrology

Although consultants state that LIDAR imagery was used to map some features, it seems streams that are not State-protected were not mapped or characterized. This may result in unanticipated changes in surface hydrology as development of the road segments, tower pads and related infrastructure is built and resides on the landscape. Specifically, development can alter inputs of water and sediment to waterbodies, arguably especially to smaller, steeper unprotected streams. Because these streams often flow into larger, protected streams, they should be mapped and potential impacts of development should be mitigated.

Appendix 21B (Preliminary Geotechnical Engineering Report) and Exhibit 21.3 (Bedrock) suggest that groundwater may be at or near the surface at many of the tower locations.

Wetlands & Vernal pools

Invasive species

Appendix 22 B (Invasive Species Control Plan) does not include the required map as specified in Draft Permit Specific Condition # 4, i (p. 52). Note that there is no Figure 22-1 in the Article 10 Project file website (see note in reference to Table 1 in ORES Appendix 22 B, p. 2). If that table does exist, it should be verified and updated as noted in Appendix 22 B, p. 3 (4. Pre-Construction Monitoring for Invasive Species).

Project description

Wetlands & Vernal pools

TOWER 8: Based on orthoimagery used as underlying layer in Figure 22-1, Pt. 1 (Sheet 58) and Pt. 2 (Sheets 68 and 78), it appears previous human entry and disturbances have occurred in both the 2nd-growth (?) and wetland portions. That said, they are relatively large ecotypes. Any opportunity to omit the planned disturbance/disruption would help to keep these features functional and intact in their current condition would likely be advantageous. The planned routing of the collection lines may prohibit this.

Impacts assessment

Draft Permit Conditions

p. 7, g: There are no Site Clearing Plans found in either Project file (ORES or Article 10). Considering nature and extent of ground disturbance associated with activities potentially allowed with Notice to Proceed with Site Preparation, it should not be granted until all pre-construction compliance filings have been done and approved.

p. 10, b: No qualifications are listed for the third-party Environmental Monitor

p. 12, e: Buffers around wetlands should also be pre-flagged.

p. 14 & 15, I, 3: What happens if screen plantings fail after two years?

p. 28, p, 1: All streams (including ephemeral) should be identified and flagged prior to commencing any ground-disturbing activities. Unprotected streams are the most numerous and often the steepest in a watershed. As such, they are sensitive to inputs on water, sediment and other pollutants and can convey them to larger, protected streams. Identifying and flagging and mitigating for downstream effects can prevent impacts to the larger, protected streams they typically flow into.

p. 29, p, 3: Fuel storage should require secondary containment, regardless of linear/surface distance to water resources. Spills infiltrate downward.

p. 29, p, 4: Fill is not to be introduced to wetlands or waterbodies without a permit from the appropriate Federal or State agency. These permits should be obtained and all relevant data provided to the public for comment prior to project approval.

p. 29, p, 5, last sentence: "…prevent any substantial visible contrast…" "Substantial is vague and open to interpretation and should be defined. Without definition there is no ability to determine if it has been achieved.

p. 29, p, 6 & 7: Considering the preliminary findings about the potential for shallow groundwater in much of the project areas (Appendix 21 B, Preliminary Geotechnical Engineering Report) and the desktop analysis displayed in Figure 21-3 (Bedrock), concrete washouts should be done in such a way that infiltration into soils or and runoff cannot occur.

p. 30, p, 11: The Discharge Notice and Response condition implies water quality would be sufficiently monitored to know when such a change has occurred. However, the Permit does not explicitly state a water quality monitoring protocol is required at any stage of project development, restoration or decommissioning. Similarly, because of ground and surface water

connectivity, monitoring of unprotected water resources should be integrated into a water quality monitoring protocol.

p. 30, q, 1, i: Due to the seasonal considerations, and life cycles for bird and wildlife species, wetland activities should not occur during the stated window of April 1 to June 15.

p. 30, q, 1, ii: Wetland function should be prioritized by not allowing work when surface conditions are wet. That said, wetlands are valuable in part because of their subsurface saturation and soil properties so their function should be prioritized at all times.

p. 31, q, 1, iv: What's the rationale for allowing a four-month delay? Construction matting should be removed when its purpose has been served. Otherwise, it's considered "fill", which must be approved and permitted by the appropriate State or Federal agency. Also, it's not explicitly stated that any invasive species parts should be isolated and disposed of in accordance with the Invasive Species Management Control Plan.

p. 31, q, 1, v, vi, vii: These sections are unclear. Wetland hydrology depends on both subsurface and surface waters. How will these measures be accomplished if subsurface breach occurs?

p. 32, q, 1, xiii: Whose responsibility is it to decide what's appropriate?

p. 32, q, 2, i: No Wetland Restoration and Mitigation Plan is filed on either the ORES or Article 10 database of documents.

p. 33, q, 2, v: Revegetation monitoring should be documented with digital picture files so that continuity over the monitoring period can be maintained when there is a change in personnel. The last part of the requirement regarding invasive species is unclear.

p. 33, q, 3: Cut vegetation, lopped and / or piled in a wetland may be considered fill If so, it would be required to be authorized and permitted by the appropriate Federal or State agency.

p. 34, q, 4, ii: Should geotextile fabric or gravel include minimum technical specifications?

p. 34, q, 7: Any fill in wetlands may require authorization and permitting from the appropriate State or Federal agency. The remainder of this condition is confusing / unclear and / or may be impossible to achieve.

p. 34, q, 10: No Wetland Restoration and Mitigation Plan is filed on either the ORES or Article 10 database of documents.

p. 35, r, 2: Under what legislative authority can ORES or DPS make exception to allow work outside the operating seasons for in-stream work?

p. 35, r, 3: Stream bank integrity is usually best achieved with a stable root system from woody vegetation. In some cases, rock may be advantageous as well. Depending on high flow volume

and frequency, matting may be washed out within a few floods. If it is used, it should be matched to site conditions and installed according to manufacturer's instructions.

p. 35, r, 4: As noted, instream snags can be important for fish even if they contribute to scouring. A fisheries biologist should review any situations where instream snags are being considered for removal.

p. 36, r, 9: "All fish trapped within cofferdams…" This language should be expanded to include other organisms.

p. 36, r, 11: No Stream Restoration and Mitigation Plan is filed on either the ORES or Article 10 database of documents.

Draft Permit, Site-specific Conditions

p. 45, 6, c: No Wetland Restoration and Mitigation Plan is filed on either the ORES or Article 10 database of documents.

p. 47, 6, h: Neither Appendix I (Decommissioning Plan) nor Appendix 22 B (Invasive Species Control Management Plan) provides for invasive species management as part of and subsequent to project decommissioning. Given the amount of ground disturbance inherent in decommissioning, this is a serious omission affecting work to be done, multi-year monitoring and funding needed to achieve both.

p. 48, 7, I, a: It should be explicitly stated that this includes permits from the US Army Corp of Engineers for work in wetlands under their jurisdiction.

p. 48, 7, I, b, 1: Neither Appendix I (Decommissioning Plan) nor Appendix 22 B (Invasive Species Control Management Plan) provides for invasive species management as part of and subsequent to project decommissioning. Given the amount of ground disturbance inherent in decommissioning, this is a serious omission affecting work to be done, multi-year monitoring and funding needed to achieve both.

p. 49, 7, I, e, 1, 2, 3, 4, 5, & 6: There are no Quality Assurance and Control; Construction Operations, Facility Maintenance and Management, Vegetation Management, Facility Communications or Environmental Monitoring Plans on either the ORES or Article 10 database of documents.

p. 52, 7, f, 2: No Wetland Restoration and Mitigation Plan is filed on either the ORES or Article 10 database of documents.

p. 52, 7, f, 3: No Stream Restoration and Mitigation Plan is filed on either the ORES or Article 10 database of documents.

p. 52, 7, f, 4, i-vi: Appendix 22 B does not include the require baseline mapping, and therefore most of the related requirements listed here.

p. 52, 7, f, 4, iv: Invasive species monitoring (and identification and control of new infestations if any, should continue through the life of the project as should control measures to prevent their introduction.

Bedrock

Appendix 21 B (Preliminary Geotechnical Engineering Report) suggests significant blasting may be required to site many of the towers due to shallow bedrock. It is unknown whether and to what extent this could affect or alter subsurface volumes and flowpaths, both to ecologic features and for water wells and intakes.

Streams & Wetlands

Surface & Subsurface Hydrology

Exhibit 23 (Water Resources & Aquatic Ecology) states Final SWPPP with discharge calculations resulting from development won't be done until after certification of the facility. Therefore Appendix 21 E does not disclose modeled changes in surface hydrology resulting from the project.

Invasive Species Management

Appendix 22 B (Invasive Species Control Plan) does not include the required map as specified in Draft Permit Specific Condition # 4, i (p. 52). Note that there is no Figure 22-1 in the Article 10 Project file website (see note in reference to Table 1 in ORES Appendix 22 B, p. 2). If that table does exist, it should be verified and updated as noted in Appendix 22 B, p. 3 (4. Pre-Construction Monitoring for Invasive Species).

Though it may be decades in the future, according to Appendix I (Decommissioning Plan), project site decommissioning will entail significant ground disturbance with potential to introduce or spread invasive species. This consideration should be included in Cumulative Effects analysis and resources must be committed by the Applicant to make sure invasive species are addressed long after the 5-year post- construction timeframe they've committed to in Appendix 22 B (Invasive Species Control Plan), p. 6.

Mitigation

Streams & Wetlands

Exhibit 22 (Terrestrial Ecology and Wetlands), p.62 describes proposed mitigation for permanent impact to 0.19 acres of wetland. While it could be argued that wetland habitat is plentiful in and around the project area, given the importance of local wetlands to bird and wildlife species, on-site wetlands should be prioritized over contributing to a compensation fund.

Environmental monitoring

NYS taxpayers are stakeholders in this project. Therefore, monitoring is mitigation. In addition to the concerns regarding potential conflict of interest by having the Environmental Monitor paid by the Applicant, there is an issue of transparency relative to findings regarding environmental compliance. State and Federal resource management agencies and the public should be granted access to daily monitoring reports via website postings or some other manner. Agency staff should be granted access if owner or operator is documented not be compliant with permit conditions.

Cumulative effects analysis

There has been very little to none for aquatic resources or any other environmental impact in this project.